

PROPOSED DRAFT
SEPTEMBER 2014

206.03.2 Design

B. Structures. If a bridge is chosen as means for conveyance of the waterway, provide a waterway opening of sufficient size to accommodate the 2-year flood event, spanning the active channels with 1-foot (305 mm) minimum freeboard. Construct all temporary bents in a manner that the current remains un-deflected. Provide adequate bulkheads at the approach fills to prevent fill materials from entering the waterway.

Provide the detour bridge with a width greater than or equal to that of the existing bridge, with a design load capacity of AASHTO HS-20 (MS-18). Provide a rail system with blunt end protection at all bridge ends. Ensure the approach rail system meets either NCHRP 350 or MASH crash test requirements in accordance with Table 206-1. Ensure the bridge rail can resist railing design forces as specified in the AASHTO LRFD (Table A13.2-1) for the detour design speed in accordance with Table 206-1.

**TABLE 206-1
BRIDGE RAIL DESIGN**

<u>Design Speed</u>	<u>Bridge Rail</u>	<u>Approach Rail Elements</u>
≤ 30 mph	TL-1	TL-1
> 30 mph – 45 mph	TL-1	TL-2
> 45 mph	TL-2	TL-3

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COMMENTS:

1. We made a couple of minor edits to the design specification. This is because there may be instances when a higher standard is required. See below:

C. Structures. If a bridge is chosen as means for conveyance of the waterway, provide a minimum waterway opening of sufficient size to accommodate the 2-year flood event, spanning the active channels with 1-foot (305 mm) minimum freeboard or as specified in the contract. Construct all temporary bents in a manner that the current remains un-deflected. Provide adequate bulkheads at the approach fills to prevent fill materials from entering the waterway.

Response: We concur with the addition of the word "minimum." The final draft has been changed to reflect this. The addition of, "or as specified in the contract," is not necessary because contract specific language would be of a higher precedence than the supplemental specification.

2. Consider requiring HL 93 design loading.

Response: Most contractors and many consultants routinely design temporary structures using the AASHTO Standard Specifications. Requiring LRFD design alone is not necessary. It will be added as an option to the final draft.

FINAL DRAFT
EFFECTIVE DECEMBER 11, 2014

206.03.2 Design

B. Structures. If a bridge is chosen as means for conveyance of the waterway, provide a minimum waterway opening of sufficient size to accommodate the 2-year flood event, spanning the active channels with 1-foot (305 mm) minimum freeboard. Construct all temporary bents in a manner that the current remains un-deflected. Provide adequate bulkheads at the approach fills to prevent fill materials from entering the waterway.

Provide the detour bridge with a width greater than or equal to that of the existing bridge, with a design live load capacity of HL-93 loading, for LRFD designs, or AASHTO HS-20 (MS-18), for ASD and LFD designs. Provide a rail system with blunt end protection at all bridge ends. Ensure the approach rail system meets either NCHRP 350 or MASH crash test requirements in accordance with Table 206-1. Ensure the bridge rail can resist raiing design forces as specified in the AASHTO LRFD (Table A13.2-1) for the detour design speed in accordance with Table 206-1.

TABLE 206-1
DETOUR BRIDGE DESIGN

Design Speed	Bridge Rail	Approach Rail Elements
≤ 30 mph	TL-1	TL-1
> 30 mph – 45 mph	TL-1	TL-2
> 45 mph	TL-2	TL-3